CORRELATIONS BETWEEN THE TRUNK OF THE FACIAL NERVE AND THE GREATER AURICULAR NERVE

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Introduction

The facial nerve is one of the most susceptible cranial nerves to various infections, but not less susceptible, due to its superficial location, to injures of the maxillofacial area. Taking into consideration the daily stress and rhythm of social life, their consequences and negative impact on human physiognomy, nowadays, in order to be successful, it is not enough, only to have a good education, but at the same time it is important to have a good look. With the development of the fashion industry and desire to have an attractive look, rejuvenation procedures and plastic surgery become increasingly popular.

The peripheral portion of the facial nerve, especially, its parotid plexus branches innervate region of the face, so, besides bacterial and viral pathogenic agents that can cause facial palsy, extracranial branches of the facial nerve are under a serious iatrogenic risk in parotid tumor ablation, plastic and maxillofacial surgery [1, 2, 3]. In some individuals microtraumas of the terminal branches of the facial nerve may cause changes to mimicry after maxillofacial surgery, especially in those cases, when muscles are innervated only by a single terminal branch.

Aim of study

Taking into consideration that microtraumas of the facial nerve in parotid tumor ablation, maxillofacial and plastic surgery can irrevocably change somebody's life quality, preservation of functions of the facial nerve is one of the main objectives of surgeons, and it induced us to review the way of appearance of the main trunk of the facial nerve from the stylomastoid foramen and to establish, if there are any correlations between the trunk of the facial nerve and the trunk of the greater auricular one.

Materials and methods

Twenty eight anatomical semiheads specimens, fixed in formalin solution, were dissected for our purpose. Fourteen of those semiheads were dissected in a bilateral pattern and were analysed in order to establish the correlations between the trunk of the facial and greater auricular ones in the same person.

The specimens were dissected at the Department of Human Anatomy of *Nicolae Testemitanu* State University of Medicine and Pharmacy, from the Republic of Moldova.

An incision from the temporomandibular joint was made towards the angle of the mandible and anatomical dissection of the lateral side of the face and neck was carried out. The posterior belly of the digastric muscle was used as a landmark for facial nerve trunk identification at its exit from *Fallopian* canal. The superficial tissues of the face were removed by dissection and width of the trunks of the facial nerve and of the greater auricular one were measured. All anatomical samples were photographed and digitally processed.

The research project was approved by the Ethics Committee of *Nicolae Testemitanu* State University of Medicine and Pharmacy, of the Republic of Moldova.

Discussions and results

Microtraumas of the facial nerve in parotid tumor ablation, in maxillofacial and plastic surgery [1, 2, 3] induced us to study the correlations between the facial and greater auricular nerves trunks.

There are many morphological and clinical papers about anatomical variations of the facial nerve branches, but very few studies regarding correlations of the facial nerve trunk and that of the greater auricular one. Nevertheless, for us was quite interesting to follow the study carried out by S. Colbert et al., 2014 [4], who observed that the width of the greater auricular nerve can predict the width of the facial nerve trunk.

Many soft tissue and bony landmarks such as tragus, posterior belly of the digastrics muscle, external auditory canal, angle of the mandible, styloid process and others are given as suitable for identification of the facial nerve trunk [5, 6], but until now there was not identified a high fidelity landmark that could be used without iatrogenic consequences. That is why, morphological knowledge concerning divisions and course of the facial nerve, as well as, updates of the facial nerve landmarks are of clinical significance for oromaxillofacial and plastic surgeons.

According to S. Colbert et al. 2014 "there was a strong correlation between the widths of the nerves from both sides" and "the nerves did not differ significantly in size in patients and cadavers". As morphologists we did not had access to patients, but in cadavers the mentioned correlations between the width of the greater auricular nerve and the width of the main trunk of the facial one was marked out in all the specimens.

In the majority of cases on the dissected samples an obvious

correlation between the width of the facial nerve and the width of the greater auricular nerve trunks was established. When the trunk of the greater auricular nerve was thin, a thin trunk of the facial nerve was found.

The mean width of the facial nerve trunk was 2.81 mm and of the greater auricular nerve was 2.74 mm. We agree with S. Colbert et al, 2014, that there is a strong correlation between the width of the greater auricular nerve and the main trunk of the facial nerve on both right and left sides, and it was observed both in male and in female. The facial nerve in about 97% was connected by 1-3 thin twigs to the greater auricular nerve.

Conclusions

There is a strong correlation between the width of the facial nerve and width of the greater auricular nerve trunks. This fact is of clinical significance and could be used and as a landmark in maxillofacial and neck surgery.

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PROSPECTS OF THE ZAPORIZHIAN REGION IN THE FIELD OF ECOLOGICAL TOURISM AND RECOVERY

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Relevance. Ecological tourism is a purposeful journey into the natural territories in order to understand the local culture and the history of the development of the natural environment that do not violate the